

What is claimed:

1. An electrode cleaner for use with an electro-kinetic transporter-conditioner that includes a first electrode, and a removable second electrode having a base member, the electrode cleaner comprising:

a strip of flexible electrically insulating material having a first end attached to the base member, and having a second end that defines a slit;

said strip extending from the base member and being sufficiently long to span a distance between the base member and the first electrode so that the first electrode can fit within said slit.

2. The electrode cleaner of claim 1, wherein when the base member is moved during removal of the second electrode, said slit frictionally cleans an outer surface of the first electrode.

3. The electrode cleaner of claim 1, further comprising:

means for deflecting at least the slit-containing end of said strip into a position generally parallel to a longitudinal axis of the first electrode when the electro-kinetic transporter-conditioner is in operation.

4. The electrode cleaner of claim 3, wherein said means for deflecting includes a vane disposed within the transporter-conditioner such that during operation of the transporter-conditioner a distal portion of said vane contacts and so deflects said slit-containing end of said strip.

5. The electrode cleaner of claim 4, wherein said means for deflecting includes a biased pivot mechanism that attaches said strip to the base of the second electrode.

6. The electrode cleaner of claim 1, further comprising:

means for deflecting at least the slit-containing end of said strip generally upward such that an air gap exists between said slit-containing end of said strip and the first electrode when the second electrode is fully inserted in the electro-kinetic transporter-conditioner.

7. The electrode cleaner of claim 6, wherein said means for deflecting includes a vane disposed within the transporter-conditioner such that when the second electrode is fully inserted in the electro-kinetic transporter-conditioner a distal portion of said vane contacts and so deflects said slit-containing end of said strip.

8. The electrode cleaner of claim 6, wherein said means for deflecting includes a biased pivot mechanism that attaches said strip to the base of the second electrode.

9. The electrode cleaner of claim 1, further comprising:  
a vane disposed within the transporter-conditioner such that when the second electrode is fully inserted in the transporter-conditioner, a distal portion of said vane bends said slit-containing end of said strip away from the first electrode so that said strip does not contact the first electrode.

10. The electrode cleaner of claim 1, wherein said strip of flexible electrically insulating material is attached directly to the base of the second electrode.

11. The electrode cleaner of claim 1, wherein an arm projecting from the base attaches said strip of flexible electrically insulating material to the base.

12. The electrode cleaner of claim 11, further including:  
means for deflecting the arm upwards, which causes the strip to not contact the first electrode when the second electrode is fully inserted in the electro-kinetic transporter-conditioner.

13. An electrode cleaner for use with an electro-kinetic transporter-conditioner that includes a first electrode, and a removable second electrode, the electrode cleaner comprising:

a strip of flexible electrically insulating material having a first end associated with the second electrode, and having a second end that defines a slit;

said strip extending toward and beyond the first electrode so that the first electrode can fit frictionally within said slit when the second electrode is disposed within the electro-kinetic transporter-conditioner;

wherein movement of the second electrode causes said slit in said strip to frictionally clean an outer surface of the first electrode.

14. The electrode cleaner of claim 13, further comprising:

means for deflecting at least the slit-containing end of said strip into a position generally parallel to a longitudinal axis of the first electrode when the electro-kinetic transporter-conditioner is in operation.

15. The electrode cleaner of claim 14, wherein said means for deflecting includes a vane disposed within the transporter-conditioner such that during operation of the transporter-conditioner a distal portion of said vane contacts and so deflects said slit-containing end of said strip.

16. The electrode cleaner of claim 15, wherein said means for deflecting includes a biased pivot mechanism that attaches said strip to the base of the second electrode.

17. The electrode cleaner of claim 13, further comprising:

means for deflecting at least the slit-containing end of said strip generally upward such that an air gap exists between said slit-containing end of said strip and the first electrode when the second electrode is fully inserted in the electro-kinetic transporter-conditioner.

18. The electrode cleaner of claim 17, wherein said means for deflecting includes a vane disposed within the transporter-conditioner such that when the second electrode is fully inserted in the electro-kinetic transporter-conditioner a distal portion of said vane contacts and so deflects said slit-containing end of said strip.
19. The electrode cleaner of claim 17, wherein said means for deflecting includes a biased pivot mechanism that attaches said strip to the base of the second electrode.
20. The electrode cleaner of claim 13, further comprising:  
a vane disposed within the transporter-conditioner such that when the second electrode is fully inserted in the transporter-conditioner, a distal portion of said vane bends said slit-containing end of said strip away from the first electrode so that said strip does not contact the first electrode.
21. The electrode cleaner of claim 13, wherein said strip of flexible electrically insulating material is attached directly to the base of the second electrode.
22. The electrode cleaner of claim 13, wherein an arm projecting from the base attaches said strip of flexible electrically insulating material to the base.
23. The electrode cleaner of claim 22, further including:  
means for deflecting the arm upwards, which causes the strip to not contact the first electrode when the second electrode is fully inserted in the electro-kinetic transporter-conditioner.

24. An electrode cleaner for use with an electro-kinetic transporter-conditioner that includes a first electrode, and a removable second electrode, the electrode cleaner comprising:

a strip of flexible electrically insulating material having a first end and a second end, said first end attached to second electrode such that said strip is biased to extend toward the first electrode, the second end defining a slit; and

a vane disposed within the transporter-conditioner such that when the second electrode is fully inserted into the transporter-conditioner, a distal portion of said vane engages and upwardly deflects said slit-containing end of said strip so that said strip does not contact the first electrode;

wherein upward movement of the removable second electrode causes said strip to disengage from said distal portion of said vane and to extend toward and beyond the first electrode such that the first electrode fits frictionally within said slit to frictionally clean an outer surface of the first electrode.

25. The electrode cleaner of claim 24, wherein said strip of flexible electrically insulating material is attached directly to the base of the second electrode.

26. The electrode cleaner of claim 24, wherein an arm projecting from the base attaches said strip of flexible electrically insulating material to the base.

27. The electrode cleaner of claim 26, wherein said arm is attached to the base such that it pivots about a pivot axle.

28. The electrode cleaner of claim 27, further comprising a bias mechanism that biases the arm to extend generally perpendicular to the second electrode.

29. An electrode cleaner for use with an electro-kinetic transporter-conditioner that includes a first electrode, and a removable second electrode with a member attached to a lower end of the second electrode, the electrode cleaner comprising:

a flexible strip of high voltage and high temperature breakdown resistant material, said strip including a first end and a second end, said first end attached to the member such that said strip is biased to extend toward the first electrode, the second end defining a slit; and

a vane disposed within the transporter-conditioner such that when the second electrode is fully inserted into the transporter-conditioner, a distal portion of said vane engages and upwardly deflects said slit-containing end of said strip so that said strip does not contact the first electrode;

wherein upward movement of the removable second electrode causes said strip to disengage from said distal portion of said vane and to extend toward and beyond the first electrode such that the first electrode fits frictionally within said slit to frictionally clean an outer surface of the first electrode.

30. The electrode cleaner of claim 29, wherein said strip is attached directly to the member.

31. The electrode cleaner of claim 29, wherein an arm projecting from the base attaches said strip to the member.

32. The electrode cleaner of claim 31, wherein said arm is attached to the member such that it pivots about a pivot axle.

33. The electrode cleaner of claim 32, further comprising a bias mechanism that biases the arm to extend generally perpendicular to the second electrode.